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What is claimed is;

1. A processing apparatus having a gas supply mechanism that supplies a processing gas into a processing chamber via a plurality of gas supply holes, an evacuating mechanism that evacuates the processing gas from said processing chamber and a gas circulating mechanism that returns, a least, a portion of exhaust gas evacuated from said processing chamber to said gas supply mechanism, wherein;

said gas supply mechanism is provided with a primary gas supply system that supplies primary gas supplied from a processing gas source into said processing chamber via a plurality of primary gas supply holes and a circulating gas supply system that supplies at least a portion of the exhaust gas into said processing chamber via a plurality of circulating gas supply holes with said primary gas supply system and said circulating gas supply system constituted as systems independent of each other.

2. A processing apparatus according to claim 1, wherein;

the hole radius and the hole density of said gas supply holes are constant over the entire surface; and

the ratio of the number of said primary gas supply holes and said primary number of said circulating gas supply holes is set equal to the ratio of a target flow rate for said primary gas and a target flow rate for said circulating gas.

3. A processing apparatus according to claim 1, wherein;

the hole radius of said gas supply holes is constant over the entire surface;

the ratio of the area over which said primary gas supply holes are provided and the area over which said circulating gas supply holes

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a second primary gas supply system is provided to supply said primary gas through said circulating gas supply holes, with a means for flow rate adjustment for said primary gas provided at said second primary gas supply system.

8. A processing apparatus according to any of claims 1, wherein;
a buffer space is provided at said gas circulating mechanism
and / or said circulating gas supply system.
9. Processing apparatus according to any of claims 1, wherein;
a means for filtering said circulating gas is provided at said gas
circulating mechanism and / or said circulating gas supply system.
10. A processing apparatus according to any of claims 1, wherein;
the rate at which said primary gas is supplied through said
primary gas supply holes into said processing chamber and / or the
rate at which said circulating gas is supplied through said circulating
gas supply holes into said processing chamber is set equal to or
higher than 500 m / sec.

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Sub 7
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